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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,462

10/27/2003

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SAA-99

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03/05/2008

EXAMINER

PATEL, AJIT

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/694,462	Applicant(s) BREINLINGER ET AL.	
	Examiner AJIT G. PATEL	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al (U.S. pat. # 5,619,494) in view of Gillies et al (U.S. Pub. # 2005/0180356).

Regarding claims 1-55, Nishikawa et al disclose an access unit comprising having a redundant topology for communication between one or more devices (see fig. 1) and a central hub (concentrator in fig. 1) comprising: a central hub having a plurality of ports (see port in fig. 1); a first end node (see access unit in fig. 1) having a first port and a second port (see connector in fig. 1); a first active cable connected to the first port in the end node and a first port of the plurality of ports in the hub; a second active cable connected to the second port in the end node and a second port of the plurality of ports in the hub (the cable connected between port and the connector of fig. 1), a second end node having a first port and a second port; a third active cable connected to the first port in the second end node and a third port in the hub; a fourth active cable connected to the second port in the second end node and a fourth port in the hub, (it is obvious to connect another access unit to the concentrator since the concentrator has many ports to connect more access units in fig. 1); a plurality of additional end nodes, each end node having a first port and a second port, a plurality of additional active cables, each active cable connecting one of the first port and the second port of one of

the plurality of additional end nodes to a corresponding port of the plurality of ports in the hub (it is obvious to connect another access unit to the concentrator since the concentrator has many ports to connect more access units in fig. 1); wherein the first active cable is provided a first route from the first end node to the hub (see the cable between the concentrator and the access unit in fig. 1), and the second active cable is provided a second route from the first end node to the hub, and wherein the first route is different than the second route (see the cable between the concentrator and the access unit in fig. 1); wherein each active cable connecting a specific one of the plurality of end nodes to the hub is provided with a different route from the specific one of the plurality of end nodes to the hub (fig. 1); wherein the hub is connected to an Internet or intranet (the concentrator which is connected to the LAN which uses the packet as transmission protocol); wherein the first end node and the plurality of end nodes are configured in a star configuration with each end node having two cable connections to the hub (fig. 1); wherein in one of the first end node and the plurality of end nodes is a programmable logic controller (fig.2); wherein in one of the first end node and the plurality of end nodes is an IO device or a bridge or a gateway or a relay (see relay in fig. 1) or a motor starter. Nishikawa et al disclose all the claimed subject matter as described in previous paragraph except that the first active cable and the second active cable transmit a same first packet of data to the first end node and the first end node is configured to perform an integrity check to a packet of data received on the first active cable and is configured to perform an integrity check on a packet of data received on the second active cable; wherein the integrity check to a packet of data received on the first active cable is a

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CRC check. Gillies et al disclose a communication system in which same packet (duplicate) is transmitted on two path (see para. 0070). Therefore, it would have been obvious to one skilled in the art to use the teaching of Gillies et al in the system of Nishikawa et al in order to provide a reliable system that enables communication to continue even in the event of a malfunction in a cable. It is noted that the using the CRC is well known in the art.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJIT G. PATEL whose telephone number is 571-272-3140. The examiner can normally be reached on MONDAY- FRIDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/AJIT G. PATEL/
Primary Examiner, Art Unit 2616